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EXAMINER	
NATNAEL, PAULOS M	
ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/079,465	KONDO ET AL.	
	Examiner	Art Unit	
	Paulos M. Natnael	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 9-14 and 17-20 is/are allowed.

6)☒ Claim(s) 1-8,15 and 16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1/16/02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims **1-8, 15 and 16** are rejected under 35 U.S.C. 102(b) as being anticipated by Strolle et al., U.S. Pat. No. **5,673,355.**

Considering claim **1**, a video signal processing method comprising steps of: extracting a first predetermined frequency component in three-dimensional frequency space, from a luminance signal of a component video signal, is met by **HHPF 504**, fig.25.

b) eliminating a second predetermined frequency component from the luminance signal, according to the first predetermined frequency component value, is met by **HLPF 514**, fig. 25;

Considering claim **2**, the video signal processing method of claim 1 wherein the first predetermined frequency component is extracted by filtering the luminance signal in a horizontal direction with a filter having a pass-band of 3.58 MHz, and further filtering the signal in a temporal direction with a filter having a pass-band of 15 Hz, is met by the

disclosure that "In the NTSC system, the chrominance or "chroma" signal containing the color information is transmitted combined with the baseband video as a pair of color-difference or mixture signals encoded in quadrature amplitude modulation of a suppressed nominally **3.58 MHz color subcarrier**, I.e., the color-difference or mixture signals are encoded in respective amplitude-modulation sidebands of a pair of in-phase and quadrature color subcarriers, both of which subcarriers are suppressed. The frequency of the color subcarrier (3.579545 MHz, which is 227.5 times the horizontal scanning frequency of 15.734 kHz) was very carefully selected so that a minimum disturbance occurs when a color video signal is displayed on a black-and-white receiver, " (col. 3, lines 37-63)) and that "It is pointed out that because the folded highs alternate in phase *at **15** Hz*, it is impractical to detect frame-to-frame motion after folding the luminance signal frequency spectrum. Accordingly, when recording, motion is detected prior to folding. *This is done by temporal differencing and spatial lowpass filtering of the separated baseband luminance prior to folding*." (col. 18, lines 14-20) [emphasis added]

Considering claim **3**, the video signal processing method of claim 1 wherein the second predetermined frequency component is obtained by filtering the luminance signal in a horizontal direction with a filter having a pass-band of 3.58 MHz, is met by HHPF 504, fig.25;

Considering claim **4**, the video signal processing method of claim 1 wherein the second predetermined frequency component is obtained by filtering the luminance signal in a horizontal direction with a filter having a pass-band of 3.58 MHz, and further filtering the signal in a temporal direction with a filter having a pass-band of 15 Hz.

Regarding claim 4, see rejection of claim 2;

Considering claim **5**, a video signal processing apparatus comprising:

a) a horizontal filter for receiving luminance signal components of a component video signal and filtering the same in a horizontal direction, is met by HHPF 504, fig.25;

b) a time filter for filtering an output of the horizontal filter in a temporal direction, is met by HLPF 514, fig.25;

c) a comparator for deciding whether an output of the time filter is equal to or larger than a predetermined threshold, is met by 1-G function 515, fig.25.

d) a gain adjuster for receiving the output of the horizontal filter, changing gain of the output of the horizontal filter according to a result of the comparator, and outputting an obtained result, is met by multiplier 508, fig.25.

e) and a subtracter for subtracting an output of the gain adjuster from the luminance signal components, is met by 506, fig. 25;

Considering claim **6**, a video signal processing apparatus comprising:

a) a filter for receiving luminance signal components of a component video signal and filtering the same in a horizontal direction and in a temporal direction, is met by HHPF 504 and HLPF 514, fig.25;

b) a comparator for deciding whether an output of the filter is equal to or larger than a predetermined threshold, is met by 1-G function 515, fig.25.

c) a gain adjuster for receiving the output of the filter, changing gain of the output of the filter according to a result of the comparator, and outputting an obtained result, is met by multiplier 508, fig.25.

d) a subtracter for subtracting an output of the gain adjuster from the luminance signal components, is met by 506, fig. 25;

Considering claim **7**, the video signal processing apparatus of claim 5 wherein the horizontal filter is a band-pass filter having a pass-band of 3.58 MHz, and the time filter is a high-pass filter having a pass-band of 15 Hz.

See rejection of claim 2;

Considering claim **8**, the video signal processing apparatus of claim 6 wherein the filter is a filter having a horizontal pass-band of 3.58 MHz and a temporal pass-band of 15 Hz.

See rejection of claim 2;

Considering claim **15**, a video signal processing method by which dot crawls and time-axis noises are eliminated from luminance signal components of a component video signal, comprising steps of: extracting a first predetermined frequency component from the luminance signal components in three-dimensional frequency space; eliminating a second predetermined frequency component from the luminance signal components according to the size of the first predetermined frequency component when elimination of the dot crawls is designated; and eliminating minute-level components varying in a temporal direction when elimination of the time-axis noises is designated.

Regarding claim **15**, see rejection of claims 1 and 2.

Considering claim **16**, the video signal processing method of claim 15 wherein the first predetermined frequency component is extracted by filtering the luminance signal components in a horizontal direction with a filter having a pass-band of 3.58 MHz, and further filtering the signal components in a temporal direction with a filter having a pass-band of 15 Hz.

See rejection of claim 2;

Allowable Subject Matter

3. Claims **9-14,17-20** are allowable over the prior art.

4. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to disclose a video signal processing method comprising steps

of: extracting a first frequency component from luminance signal components of a component video signal; obtaining a difference value of the luminance signal components between the present frame and an immediately preceding frame; obtaining a difference value of color-difference signal components of the component video signal between the present frame and the immediately preceding frame; and subtracting one-half of the difference value of the color-difference signal components between the present frame and the immediately preceding frame from the color-difference signal components, or replacing the color-difference signal components with an average value of the present frame and the immediately preceding frame, when the first frequency component value of the luminance signal components is equal to or larger than a first predetermined value, the difference value of the luminance signal components between the present frame and the immediately preceding frame is equal to or smaller than a second predetermined value, and the absolute value of the difference value of the color-difference signal components between the present frame and the immediately preceding frame is equal to or larger than a third predetermined value, as in claim **9**;

A video signal processing method comprising steps of: extracting a first frequency component from luminance signal components of a component video signal; obtaining a difference value of the luminance signal components between the present frame and an immediately preceding frame; obtaining a difference value of color-difference signal components of the component video signal between the present frame and the immediately preceding frame; obtaining a difference value of the color-difference signal components between the present frame and a frame that is two frames

before; and subtracting one-half of the difference value of the color-difference signal components between the present frame and the immediately preceding frame from the color-difference signal components, or replacing the color-difference signal components with an average value of the present frame and the immediately preceding frame, when the first frequency component value of the luminance signal components is equal to or larger than a first predetermined value, the absolute value of the difference value of the luminance signal components between the present frame and the immediately preceding frame is equal to or smaller than a second predetermined value, the absolute value of the difference value of the color-difference signal components between the present frame and the immediately preceding frame is equal to or larger than a third predetermined value, and the absolute value of the difference value of the color-difference signal components between the present frame and a frame that is two frames before is equal to or smaller than a fourth predetermined value, as in claim **10**;

A video signal processing apparatus comprising: a filter for receiving luminance signal components of a component video signal and extracting a first predetermined frequency component; a first frame memory for storing the luminance signal components for one frame period; a first subtracter for obtaining a difference value between the luminance signal components and an output of the first frame memory; a second frame memory for storing color-difference signal components of the component video signal for one frame period; a second subtracter for obtaining a difference value between the color-difference signal components and an output of the second frame memory; a noise detector for receiving an output of the filter, an output of

the first subtracter and an output of the second subtracter, and detecting noises; a gain adjuster for receiving the output of the second subtracter, and changing gain of the output of the second subtracter according to a result of the detection by the noise detector; and a third subtracter for subtracting an output of the gain adjuster from the color-difference signal components, as in claim **12**;

A video signal processing method by which cross color interferences and time-axis noises are eliminated from color-difference signal components of a component video signal, comprising steps of: eliminating minute-level components varying in a temporal direction of the color-difference signal components when elimination of the time-axis noises is designated; obtaining a difference value of the color-difference signal components between the present frame and an immediately preceding frame when elimination of the cross color interferences is designated; extracting a predetermined frequency component of luminance signal components of the component video signal; obtaining a difference value of the luminance signal components between the present frame and the immediately preceding frame; deciding that the cross color interferences are occurring when the absolute value of the difference value of the color-difference signal components between the present frame and the immediately preceding frame is equal to or larger than a first predetermined value, the absolute value of the predetermined frequency component of the luminance signal components is equal to or larger than a second predetermined value, and the absolute value of the difference value of the luminance signal components between the present frame and the immediately preceding frame is equal to or smaller than a third predetermined value;

and subtracting one-half of the difference value of the color-difference signal components between the present frame and the immediately preceding frame from the color-difference signal components, or replacing the color-difference signal components with an average value of the present frame and the immediately preceding frame, when it is decided that the cross color interferences are occurring, as in claim **17**;

A video signal processing apparatus comprising: a first subtracter for subtracting a first output of a noise detector from luminance signal components of a component video signal; a first frame memory for storing an output of the first subtracter for one frame period; a second subtracter for subtracting an output of the first frame memory from the luminance signal components; a first filter for extracting a predetermined frequency component from the output of the first subtracter; a second filter for extracting a predetermined frequency component from an output of the second subtracter; a third subtracter for subtracting a second output of the noise detector from color-difference signal components of the component video signal; a second frame memory for storing an output of the third subtracter for one frame period; a fourth subtracter for subtracting an output of the second frame memory from the color-difference signal components; a designation input means for inputting designation as to which noises among dot crawls, cross color interferences and time-axis noises are to be eliminated, from outside; the noise detector for receiving the respective outputs of the first filter, the second filter, the second subtracter and the fourth subtracter, and the designation inputted by the designation input means as to which noises among dot crawls, cross color interferences

and time-axis noises are to be eliminated, deciding a third output on the basis of the respective outputs of the second filter and the first filter when elimination of the dot crawls is designated, deciding a second output on the basis of the respective outputs of the first filter, the second subtracter and the fourth subtracter when elimination of the cross color interferences is designated, deciding a first output on the basis of the output of the second subtracter and a second output on the basis of the output of the fourth subtracter when elimination of the time-axis noises is designated; and a fifth subtracter for subtracting the third output of the noise detector from the output of the first subtracter, as in claim **19**.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PMN
September 28, 2004

PAULOS M. NATNAEL
PATENT EXAMINER